REMARKS

This is in response to the Office Action mailed on July 2, 2007. With this Amendment, claims 1, 11, 14, 22 and 23 are amended. Claims 1-31 are presented for reconsideration and allowance in view of the following remarks.

Claim RejectionsUnder-35 U.S.C. § 101

In section 2 of the Office Action, claims 1-31 were rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. As a basis for rejecting claims 1-31, the Office Action stated:

> Claims 1-31 are directed to a computer implemented method of calculation where the inputs are numbers and the results are also numbers. Claims 20-23 are directed to a computer program stored in a computer readable storage medium for implementing the method. In order for a claimed invention that is directed to such a computer implemented method of calculation, or a computer program stored in a computer readable storage for implementing a computation to be statutory, the claimed invention must accomplish a practical application. That is the claimed invention must transform an article or physical object to a different state or thing, or produce a useful, concrete and tangible result. State Street, 149 F.3d at 1373-74, 47 USPQ2d at 1601-02. Also see "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility", OG Notices: 22 November 2005. It is clear from claims 1-31 that the claims merely involve calculations and manipulations of data in performing computations. The claimed invention does not result in a physical transformation. The inputs are numbers and the outputs are also numbers. The result of the invention is merely numerical values without a practical application recited in the claims. It is not real world result, and thus is not useful, concrete and tangible. Therefore, the claimed invention is directed to non-statutory subject matter as the claims fail to assert a practical application to the invention.

Specifically with reference to claims 20-23, the stated basis of rejection is not understood, as claims 20 and 21 are dependent method claims and claims 22 and 23 are system claims. More generally with reference to all of pending claims 1-31, each of the independent claims is herein amended to make clear that the results are not merely numbers. The results in each independent claim, and therefore also in each dependent claim, include the production of a useful, concrete and tangible result.

Independent claim 1 is directed to a method of constructing a representation of an object having at least one property. Method claim 1, as amended, includes the steps of "storing the retrieved data on a tangible computer storage medium," and "representing the object by using the retrieved data to generate a user interface." It is respectfully submitted that each of these steps produce a useful, concrete and tangible result. In particular, representing an object by using retrieved data to generate a user interface is clearly the production of a useful, concrete and tangible result (e.g., the generation of a user interface representing an object) under State Street and other controlling case law. Therefore, independent claim 1 and dependent claims 2-10 are believed to be directed to patentable subject matter under 35 U.S.C. § 101.

Independent claim 11 is directed to a method of constructing representations of objects each having at least one property. Method claim 11, as amended, includes the step of "for each of the plurality of objects in the database, storing on a tangible computer storage medium the specification of property groups for use in generating a user interface representing the object." It is respectfully submitted that this is a recitation of a useful, concrete and tangible result which is produced by claim 11. Storing the specification of property groups for use in generating a user interface representing an object includes the production of a useful, concrete and tangible result (stored specifications of property groups). The utility of these specifications of property groups is clear, as the claim recites that they are used for generating a user interface representing the object. The results are also both concrete and tangible, as they are stored on a tangible computer storage medium. Therefore, independent clam 11 and dependent claims 12-21 are believed to be directed to patentable subject matter under 35 U.S.C. § 101.

Independent claim 22 is directed to an object representation system for constructing a representation of an object having at least one property. As amended, system claim 22 recites "a processor configured to implement an object representation engine, the engine configured to generate a user interface representation of the object using at least one property group stored in the object definition database." The recitation of a system having a physical component such as a processor is believed to satisfy the patentable subject matter requirements of 35 U.S.C. § 101. Further, in claim 22, the processor is configured to generate a useful, concrete and tangible result

(e.g., a user interface representation of an object). Therefore, independent clam 22 and dependent claims 23-31 are believed to be directed to patentable subject matter under 35 U.S.C. § 101.

Reconsideration and withdrawal of the rejection of each of claims 1-31 under 35 U.S.C. § 101 are therefore respectfully requested.

Claim RejectionsUnder-35 U.S.C. § 102

In section 4 of the Office Action, claims 1-31 were rejected under 35 U.S.C. § 102(b) as being anticipated by Chang et al., U.S. Patent No. 5627979 (hereafter referred to as "Chang"). The rejection of claims 1-31 as being anticipated by Chang is respectfully traversed. In rejecting independent claim 1, the Office Action stated:

> Re claim 1, Chang et al. discloses a method of constructing a representation of an object having at least one property, the method comprising:
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> identifying at least one property group associated with the object which has been chosen to represent the object (employee 1910 group, see figure 19 for example), at least one property of the object belonging to each property group associated with the object (Salary Employee 1920 and regular employee 1930, see figure 19 for example);
>
> identifying any other object that the object references within a property of an identified property group (mapping person class into employee table, see figure 16 for example);
>
> retrieving data corresponding to each of the properties belonging to the at least one property group (user clicks on the Select Tables item 1120 which displays a listbox to select the Employee table, see column 13 lines 26-28 for example); and
>
> representing the object using the retrieved data (representation for accessing objects from a data store, see column 6 line 15 for example).

This interpretation of Chang is respectfully traversed. Chang is directed to systems and methods for providing a graphical user interface for mapping and accessing objects in data stores. For example, Chang discloses methods of mapping between conventional data stores and object oriented applications and schema. See e.g., Chang at col. 4, lines 40-50. Chang does not disclose a method of constructing a representation of an object as claimed. Chang fails to teach multiple ones of the steps required in independent claim 1.

For example, independent claim 1 recites the step of "identifying at least one property group associated with the object which has been chosen to represent the object, at least one

property of the object belonging to each property group associated with the object." The Office Action cites item 1910 in figure 19 as being an employee group satisfying this property group identification step. However, item 1910 is not a property group associated with an object and which has been chosen to represent the object. Instead, item 1910 is a table. See e.g., col. 14, lines 53-58. Chang does not teach property groups which are associated with an object and which are chosen to represent the object as required. It follows that Chang does not teach the claim requirement of "at least one property of the object belonging to each property group associated with the object." While the Office Action cites items SalaryEmp 1920 and RegularEmp 1930 from figure 19 of Chang as providing such a teaching, Chang does not support such an interpretation. Instead, Chang describes items 1920 and 1930 as being two classes to which the table 1910 is to be mapped. Lacking a teaching or suggestion of this first step recited in independent claim 1, claim 1 cannot be anticipated by Chang.

Further, since Chang does not teach property groups as required by independent claim 1, Chang also cannot teach or suggest the steps of "identifying any other object that the object references within a property of an identified property group," and "retrieving data corresponding to each of the properties belonging to the at least one property group." (Emphasis added). Chang does not support the interpretation set forth in the Office Action that these steps are taught in figure 16 of that patent by mapping a person class into an employee table, and at col. 13, lines 26-28 relating to a user clicking on a Select Tables item in order to display a listbox. Lacking these and other claim limitations from independent claim 1, independent claim 1 and dependent claims 2-10 cannot be anticipated by Chang. Further, multiple ones of dependent claims 2-10 are believed to contain additional limitations which, in combination with the limitations of independent claim 1, are neither taught nor suggested by Chang. Consequently, it is respectfully requested that the rejection of claims 1-10 be withdrawn.

Independent claim 11 is directed to a method of constructing representations of objects each having at least one property. Claim 11 recites the steps "associating property groups with objects in a data base, each property group associated with an object including at least one property of the object," and "storing the property groups in the database." Claim 11 also recites

the limitations "for each of a plurality of objects in the database, specifying which property groups are to be used in representing the object;" and "for each of the plurality of objects in the database, storing on a tangible computer storage medium the specification of property groups for use in generating a user interface representing the object."

In rejecting independent claim 11, the Office Action stated:

> Re claim 11, Chang et al. discloses a method of constructing representations of objects each having at least one property, the method comprising: associating property groups with objects in a data base, each property group associated with an object including at least one property of the object; storing the property groups in the database; and for each of a plurality of objects in the database, specifying which property groups are to be used in representing the object (see figure 19 and abstract for example).

It is respectfully maintained that Chang fails to teach the combination of limitations recited in claim 11. Similar to the discussion above provided with reference to independent claim 1, Chang fails to teach, in figure 19 and elsewhere, the steps of "associating property groups with objects in a data base, each property group associated with an object including at least one property of the object," and "storing the property groups in the database." Chang provides no teaching of property groups as used in the context of independent claim 11 and the present application. It follows that Chang also fails to teach the limitation of "for each of a plurality of objects in the database, specifying which property groups are to be used in representing the object." It also follows that Chang fails to teach the limitation of "for each of the plurality of objects in the database, storing on a tangible computer storage medium the specification of property groups for use in generating a user interface representing the object." Lacking a teaching of these claim limitations from independent claim 11, independent claim 11 and dependent claims 12-21 cannot be anticipated by Chang. Further, multiple ones of dependent claims 12-21 are believed to contain additional limitations which, in combination with the limitations of independent claim 11, are neither taught nor suggested by Chang. Consequently, it is respectfully requested that the rejection of claims 12-21 be withdrawn.

Independent claim 22 is directed to an object representation system for constructing a representation of an object having at least one property. System claim 22 includes the limitations

of "an object definition database storing object definition data which defines properties of the object, and storing at least one property group associated with the object;" and "a processor configured to implement an object representation engine, the engine configured to generate a user interface representation of the object using at least one property group stored in the object definition database."

In rejecting independent claim 22, the Office Action stated:

> Re claim 22, Chang et al. discloses an object representation system for constructing a representation of an object having at least one property, the system comprising: an object database storing data for populating instances of the object; an object definition database storing object definition data which defines properties of the object, and storing at least one property group associated with the object; and an object representation engine coupled to the object database and to the object definition database, the engine configured to generate a representation of the object using at least one property group stored in the object definition database (see figures 16, 19 and abstract for example).

Using the same analysis as provided above with reference to independent claims 1 and 11, this interpretation of the teachings of Chang is respectfully traversed. It is believed that Chang does not teach or suggest, in figures 16 and 19 (as cited) or elsewhere, "an object definition database storing . . . at least one property group associated with the object." It is also believed that Chang does not teach a "processor configured to implement an object representation engine, the engine configured to generate a user interface representation of the object using at least one property group stored in the object definition database." Lacking a teaching of these claim limitations from independent claim 22, independent claim 22 and dependent claims 23-31 cannot be anticipated by Chang. Further, multiple ones of dependent claims 23-31 are believed to contain additional limitations which, in combination with the limitations of independent claim 22, are neither taught nor suggested by Chang. Consequently, it is respectfully requested that the rejection of claims 22-31 be withdrawn.

Reconsideration and allowance of all pending claims are respectfully requested.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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